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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/055,752	01/23/2002	Robert James Monson	5591 EA-00059	7386

7590 01/28/2004

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EXAMINER

BRINSON, PATRICK F

ART UNIT	PAPER NUMBER
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3752

DATE MAILED: 01/28/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/055,752

Applicant(s)

MONSON ET AL.

Examiner

Patrick F. Brinson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the subject matter recited in claims 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered. Claims 11 recites a plurality of apertures concentrically arranged, however no figure discloses this feature.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3-7, 9-15, 17, 21, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by **Glezer et al.** '823.

The patent to **Glezer et al.** '145 discloses a housing (10) having an aperture for fluid ingress and fluid egress therethrough. A flexible membrane (18) is

disclosed, wherein the housing and membrane form a fluid chamber (14) in the housing. A vibrator member (24) is disclosed for vibrating the flexible membrane to cause a volume of the fluid chamber to periodically increase and decrease with the decrease in volume of the fluid chamber simultaneously expelling a fluid vortex (34) from the aperture. The membrane may be vibrated by any suitable means, but it is disclosed that a piezoelectric actuator is utilized. The device produces a lateral fluid flow past electronic components to thereby cool the components. **Glezer et al. '823** discloses, figs. 15A and 15B a plurality of apertures (192) through which flow may flow. Beneath these apertures is membrane (198). Inherently each aperture will produce a fluid vortex that will coalesce to create a larger fluid vortex. .

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 8, 16, 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Glezer et al. '823**.

The patent to **Glezer et al. '823** discloses the recited structure, but does not disclose the flow expelled from the apertures as being laminar. At the time the invention was made, it would have been obvious matter of design choice to a person of ordinary skill in the art to provide the a laminar flow condition, because Applicant has not disclosed that laminar flow provides an advantage or solves any stated problem. Additionally, there is no structure recited that would produce a laminar flow. One of ordinary skill in the art would expect the Applicant's invention to perform equally well with flow expelled from **Glezer et al. '823** device.

4. Claims 5, 10, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Glezer et al. '823** in view of **Fusaro, Jr. et al.**

The patent to **Glezer** discloses that the vibrator can be any suitable device but does not disclose it as being an eccentric rotating weight. The patent to **Fusaro, Jr. et al.** discloses a feed hopper including a vibrating member (68). The vibrating member is disclosed as being an eccentric rotating weight powered by an air turbine. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide to the membrane of **Glezer** an eccentric rotating weight as suggested by **Fusaro, Jr. et al.** in

order to alternatively vibrate the membrane, wherein eccentric rotating weights are known to provide vibrations.

5. Claims 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Glezer et al '823** in view of **Rhyne et al**

The patent to **Glezer et al '823** discloses the recited structure with the exception of a curved lip at each aperture to produce a Venturi effect. The patent to **Rhyne et al.** discloses that it is old and known to provide a curved lip (10) in order to produce a Venturi effect. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the lip of the aperture of Glezer et al '823 in order to provide a Venturi effect to the fluid flowing therethrough.

### ***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents to Glezer et al. '654 is pertinent to Applicant's invention in disclosing a synthetic jet actuator.

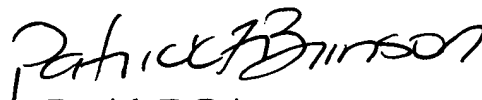
Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Patrick F. Brinson** whose telephone number is (703) 308-0111. The examiner can normally be reached on M-F 7:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Michael Y. Mar** can be reached on (703) 308-2087. The fax phone

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number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0861.

A handwritten signature in black ink, reading "Patrick F. Brinson". The signature is written in a cursive, flowing style.

Patrick F. Brinson  
Primary Examiner  
Art Unit 3752

P. F. Brinson  
January 24, 2004